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DESCRIPTION OF A NEW SPECIES AND A NEWLY RECORDED SPECIES OF THE GENUS *ACROPIMPLA* TOWNES (HYMENOPTERA, ICHNEUMONIDAE) FROM CHINA

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Abstract A new species, *Acropimpla nanlingensis* sp. nov. from Guangdong Province and a newly recorded species, *Acropimpla flavoscutis* (Cameron, 1907) from Hunan Province are described and illustrated. Type specimens are deposited in the Collection of Parasitic Wasps of Hymenoptera, Zhejiang University.

Key words Pimlpinae, *Acropimpla*, new species, new record, China.

1 Introduction

The genus *Acropimpla* Townes, 1960 is a moderately large genus of the tribe Ephialtini in the subfamily Pimplinae of Ichneumonidae, with 42 species are recognized all over the world (Yu and Horsmann, 1997; Liu *et al.*, 2010; Pham *et al.*, 2011; Yu *et al.*, 2012). The Oriental and Eastern Palearctic Regions have the most diverse fauna, of which 31 species were known, while only a few species occur in the Nearctic, Ethiopian, Australian and Western Palearctic Regions (Townes, 1960; Gupta and Tikar, 1976; He *et al.*, 1996; Yu and Horsmann, 1997). Biologically, species of genus *Acropimpla* are ectoparasitoids of Lepidoptera larva, especially the family Pyralidae (He *et al.*, 1996; Yu *et al.*, 2012).

Liu *et al.* (2010) reviewed the Chinese fauna of *Arcopimpla*, with 15 species recognized. Here a new species and a newly recorded species of this genus are added to the fauna of China.

2 Materials and Methods

Specimens were described and measured under a Olympus SZ61 stereomicroscope, and figures were made by a digital camera (Cool SNAP) mounted on a Zeiss Stemi 2000-CS stereomicroscope and Image Pro Plus ver6.0 software.

Morphological terminology follows Gauld (1991). Abbreviations used in the text are as follows: POL = postocellar line (minimum distance between posterior ocelli), OOL = Oculo-ocellar distance (minimum distance between a posterior ocellus and compound eye); T1, T2, etc., are used for the first, second, ect, metasomal tergites.

3 Taxonomy

Genus *Acropimpla* Townes, 1960

Selenaspis Roman, 1910: 91. Name preoccupied by Bleeker, 1858 and Leonardi, 1898. Type species: *Hemipimpla alboscutellaris* Szépligeti, 1908.

Acropimpla Townes, 1960: 159. Type species: *Charitopimpla leucostoma* Cameron.

Diagnosis. Body moderately long and slender; clypeus convex basally, with its apex bilobed and impressed; malar space very short, at most 0.20 to 0.35 times the basal width of mandible; occipital carina complete, slightly dipped medio-dorsally; propodeum short and convex, with or without median longitudinal carinae; fore wing with areolet usually present (except in *A. tricolor*, 3rs-m absent), oblique triangle, receiving vein 2m-cu near apex, vein 2rs-m always shorter than vein 3rs-m; hind wing with distal abscissa of vein Cu1 joining Cu1 & cu-a below middle; claws of female with a wide basal teeth; T2 with short and oblique grooves cutting off basolateral corner; T3 to T5 usually with distinct tubercles; ovipositor straight, tip of dorsal valve in profile concave behind nodus, lower valve with oblique ridges apically (Townes *et al.*, 1960; Gupta and Tikar, 1976).

***Acropimpla nanlingensis* sp. nov.** (Figs 1 - 7)

Holotype female, body length 9.2 mm, fore wing length 7.1 mm, ovipositor sheath length 4.4 mm.

Head. Transverse in dorsal view, 2.0 times as wide as long. Face wide, centrally convex, 0.7 times as high as wide, polish and finely hairy, upper margin straight. Frons smooth with sparse punctures in front of middle ocellus. Clypeus bilobed, with apical margin deeply concave centrally, 2.0 times as wide as high,

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Fig. 1. *Acropimpla nanlingensis* sp. nov., female habitus, lateral view.

with long hairs. Malar space narrow, 0.3 times the length of basal width of mandible. POL: OOL = 5:9. Gena narrowed behind eyes, 0.5 times as long as eye in dorsal view. Gena sparsely hairy. Antenna with 23 segments, first flagellomere 5.0 times as long as wide. Vertex sparsely punctate. Occipital carina complete.

Mesosoma. Pronotum largely smooth and bare, with dorsal margin sparely hairy. Epomia short and vertical. Mesoscutum moderately densely setiferous punctate. Notaulus very shallow and short. Scutellum evenly convex, sparsely punctate. Mesopleruon with anterior 2/3 hairy, posterior 1/3 smooth and bare. Epicnemial carina reaching to upper 0.7 of mesopleuron. Mesopleural suture finely foveolate. Metapleuron hairy on dorsal 0.4, shiny and bare on lower 0.6. Submetapleural carina complete. Propodeum with lateral areas moderately densely punctate and hairy, basal 0.2 and median area smooth and bare, median longitudinal carinae absent, pleural area rugose and hairy. Spiracle round and separated from pleural carina by a distance 1.3 times its short diameter.

Wings. Fore wing with cu-a opposite of Rs & M, areolet petiolate, receiving vein 2m-cu at apex. Hind wing with vein cu-a curved at lower 0.3, distal abscissa of Cu1 weakly pigment.

Legs. Hind femur 4.3 times as long as its maximum width, hind tarsus with third tarsomere 0.56 times the length of fifth tarsomere.

Metasoma. Coarsely punctate. T1 0.71 times as long as apical width, declivity smooth, lateral carina interrupted just behind spiracle, with apical 0.4 sharp. T2 1.83 times as long as apical width, tubercles weakly prominent. T3 to T5 similar to T2. T6 with basal half finely punctate and apical half smooth, hairy. T7 and T8 smooth and hairy. Ovipositor cylindrical, lower valve with 7 oblique ridges at apex, ovipositor sheath 2.0 times as long as hind tibia.

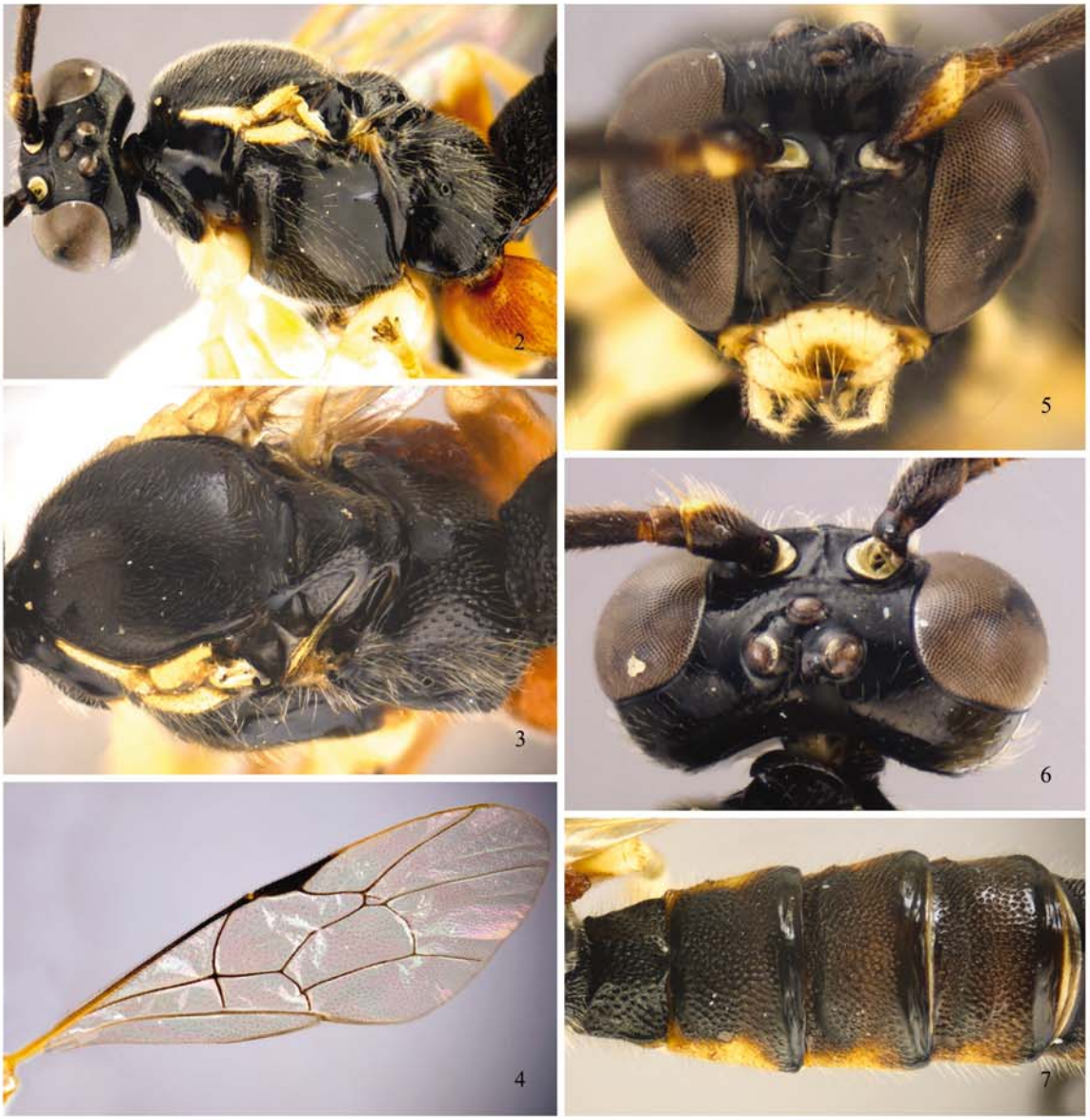
Colour. Body black, face wholly black, mandible yellowish white with apical teeth black, clypeus yellowish white. Palpi yellowish white. Antenna black, with scape ventrally brown. Upper margin of pronotum, subtegular ridge and tegula white. Legs yellowish brown. Hind coxa and femur reddish brown, trochanter whitish yellow, hind tibia with inner side brown, outer side yellowish brown. T1 black, T2 to T6 blackish brown with lateral margin yellowish brown. Wings hyaline, veins and stigma black.

Male. Unknown.

Holotype female, China, Mt. Nanling (24°56′N, 113°1′E), Guangdong, 1 – 6 Oct. 2004, XU Zai-Fu, No. 200704546.

Distribution. China (Guangdong).

Comments. This new species is similar to *A. nigroscutis* (Cameron) by scutellum and metascutellum



Figs 2 – 7. *Acropimpla nanlingensis* sp. nov. 2. Head and mesosoma, laterodorsal view. 3. Mesosoma, dorsolateral view. 4. Fore wing. 5. Head, frontal view. 6. Head, dorsal view. 7. First to fourth tergites, dorsal view.

black, and propodeum without median longitudinal carinae, but differs from the latter by face wholly black (the latter with face yellow), T6 and T7 black without transverse yellow band at apex (T6 and T7 of the latter with transverse yellow band at apex), and propodeum densely punctate (propodeum of the latter smooth with a few sparsely punctures).

Etymology. The species is named after the type locality (Mt. Nanling).

***Acropimpla flavoscutis* (Cameron, 1907) New record to China** (Figs 8 – 15)

Charitopimpla flavoscutis Cameron, 1907. 50: 97.
Exeristes flavoscutis: Morley, 1913. 3 (1): 198.
Acropimpla flavoscutis: Townes *et al.*, 1960. 216 (2): 160.

Female. Body length 11. 1 mm, fore wing length 8. 9 mm, ovipositor sheath length 5. 3 mm.

Head. Transverse in dorsal view, 2. 0 times as wide as long. Face wide, centrally convex, 0. 75 times as high as wide, evenly punctate and hairy, upper margin distinctly cleft between antennal sockets. Frons smooth with sparse punctures in front of middle ocellus. Clypeus bilobed, with apical margin deeply concave centrally, 2. 0 times as wide as high, with long hairs. Malar space short, 0. 33 times the length of basal width of mandible. POL: OOL = 1. 0: 1. 0. Gena narrowed behind eyes, 0. 4 times as long as eye in dorsal view. Gena sparsely hairy. Antenna with 24 segments, first flagellomere 3. 3 times as long as its apical wide, and 1. 2 times as long as the second. Vertex sparsely punctate. Occipital carina complete.

Mesosoma. Pronotum largely smooth and bare, with dorsal margin sparely hairy. Epomia strong and vertical. Mesoscutum moderately densely setiferous punctate. Notaulus shallow and short. Scutellum

Figs 8 – 9. *Acropimpla flavoscutis* (Cameron). 8. Head, frontodorsal view. 9. Female habitus, lateral view.

evenly convex, sparsely setiferous punctate, lateral carina present on basal 0.2. Mesopleuron with anterior 2/3 and lower margin finely punctate and hairy, posterior 1/3 smooth and bare. Epicnemial carina reaching to upper 0.7 of mesopleuron. Mesopleural suture shallowly foveoloate. Metapleuron with dorsal half setiferous punctate and lower half smooth and bare. Submetapleural carina complete. Propodeum with median longitudinal carina strong, reaching to apical 0.7 and divergent; lateral area coarsely punctate and hairy; median area smooth and bare, pleural area rugose punctate. Spiracle separated from pleural carina by a distance 1.0 times its longer diameter.

Wings. Froe wing with cu-a opposite of Rs & M, areolet slightly petiolate and receiving 2m-cu at apical 0.1. Hind wing with cu-a curved at lower 0.4, distal abscissa of Cu1 weakly pigment.

Legs. Hind femur 4.1 times as long as its maximum width, hind tarsus with third segment 2/3 the length of fifth segment.

Metasoma. Coarsely punctate and hairy. T1 0.75 time as long as apical width, punctate, with median dorsal carina reaching to upper end of declivity, lateral carina complete. T2 to T5 transverse, strongly and coarsely punctate, tubercles strongly prominent. T6 sparsely punctate and hairy. T7 and T8 nearly smooth, hairy. Ovipositor cylindrical, upper valve with a nodus and slightly concave beyond nodus dorsally, lower valve with 7 oblique ridges at apex, ovipositor sheath 1.7 times the length of hind tibia.

Colour. Head black. Antenna black, with ventral side of scape and pedicle yellowish white; face yellowish brown with a longitudinal black mark centrally; clypeus black; mandible with basal 0.4 yellow and apical 0.6 black; dorsal margin of pronotum, tegula and subtegular ridge yellow; upper end of epicnemial carina with a irregular yellow spot below subtegular ridge; scutellum yellow centrally with a black stripe; metascutellum yellow. Basal 0.2 and tubercles of T2 to T4 yellowish brown, T5 black with tubercles reddish black, T6 and T7 entirely black. Legs brown, fore and middle coxae and trochanters yellowish white; hind leg reddish brown with trochanters light brown. Wings hyaline, vein and stigma black. Ovipositor sheath black.

Material examined. One female, China, Yunshan TV Tower (26° 39′ N, 110° 37′ E), Wugang, Hunan Province, 3 May 2009, YOU Qun, No. 201008433.

Distribution. China (Hunan); India.

Comments. Fore wing of the species from China with areolet slightly petiolate (the original description with areolet sessile). This species resembles *A. uchidai* (Cushman, 1933) in having a yellow spot on upper

Figs 10 – 15. *Acropimpla flavoscutis* (Cameron). 10. Head, mesoscutum and scutellum. 11. Mesosoma and base of first tergite. 12. Wings. 13. Head and mesosoma. 14. Posterior half of mesosoma, first and second tergites. 15. Metasoma. 10 – 11, 15. Dorsal view. 13 – 14. Lateral view.

end of epicnemial carina, but can be distinguished from the latter in having the propodeum with median longitudinal carinae and laterally strongly punctate, and upper margin of face distinctly cleft between antennal sockets.

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中国顶姬蜂属一新种及一新纪录种（膜翅目，姬蜂科）

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摘 要 记述我国瘤姬蜂亚科 Pimplinae 顶姬蜂属 *Acropimpla* Townes 1 新种，南岭顶姬蜂，新种 *Acropimpla nanlingensis* sp. nov. 和 1 新纪录种，黄盾顶姬蜂 *Acropimpla flavoscutis* (Cameron, 1907)。模式标本保存于浙江大学膜翅目标本馆。

南岭顶姬蜂，新种 *Acropimpla nanlingensis* sp. nov.（图 1 ~ 7）

鉴别特征 新种从并胸腹节无中纵脊、小盾片和后小盾片黑色等特征与分布印度的黑盾顶姬蜂 *Acropimpla nigroscutis* (Cameron, 1907) 相似，但可以从以下特征与后者区别：1）颜面完全黑色（后者颜面黄色）；2）腹部第 6、7 节背板黑色端缘无黄色横带（后者第 6、7 节背板具黄色横带）；3）并胸腹节密布刻点（后者并胸腹节光滑，散布稀疏刻点）。

研究标本：正模♀，广东南岭，2004-10-01 ~ 06，许再福采，编号 200704546.

关键词 瘤姬蜂亚科，顶姬蜂属，新种，新纪录，中国.

中图分类号 Q969.544.8

分布：中国（广东）。

词源：新种种名源自模式标本产地地名。

黄盾顶姬蜂 *Acropimpla flavoscutis* (Cameron, 1907) 中国新纪录（图 8 ~ 15）

研究标本：1♀，湖南武岗云山电视塔，2009-05-03，游群采，编号 201008433。

分布：中国（湖南）；印度。

注：分布我国的种类前翅小翅室略具短柄与原描述稍有差异（原描述前翅小翅室无柄）。本种与内田顶姬蜂 *Acropimpla uchidai* (Cushman, 1933) 较为相似，可从以下特征与后者区别：并胸腹节具中纵脊（后者并胸腹节无中纵脊），颜面上缘在触角窝之间有深缺刻（后者颜面上缘近平直，无明显缺刻）。

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